

FIRE STATION BUILDING COMMITTEE

July 6, 2005

Present: Bruce Card, Robert Cox, Gerald LaFlamme, Anthony Mastromatteo,
Daniel Morgado

Absent: Ralph LeBlanc, Pat Sacco

Also present: Kaffee Kang, Kevin Samara, Donald Gray, Jack Bowles, Paula Lupton

Ms. Kang presented two building schemes that were reviewed by those present. The schemes were shown in the form of a plot plan, elevations and interior layout. A summary was presented showing the allocation of space within the building. A question arose about the location of the new cemetery garage. It was determined that Mr. Morgado will meet with the Commission on the subject on July 11th. There was an extended discussion on sizing and appearance of the building. The Committee expressed concern over the balance of building for the future while maintaining control over construction and future O&M costs. Several present expressed thoughts on the appearance of the building and the need to fit into the historic district.

On a motion by Chief LaFlamme, second by Mr. Mastromatteo, the Committee voted to endorse Scheme B with a hip roof design with day room in the forward section of the building.

On a motion by Mr. LaFlamme, second by Mr. Mastromatteo, the minutes of June 23, 2005 were accepted.

Ms. Kang presented the Weber Engineering Associates, LLC, Geo-Technical report dated June 27, 2005. Ms. Kang indicated that soils would not be a problem but the issue of stormwater management still needed to be studied.

The Historic District Commission will meet to review Scheme B on July 12th.

The next meeting of the Committee will be July 21, 2005 at 7:00 PM.

The meeting adjourned at 8:30 PM.

Respectfully submitted,

Daniel J. Morgado
Town Manager

**OFFICE OF THE
TOWN MANAGER**



Richard D. Carney
Municipal Office Building
100 Maple Avenue
Voice: 508-841-8508
Fax: 508-841-8599
dmorgado@th.ci.shrewsbury.ma.us

Town of Shrewsbury
MASSACHUSETTS 01545-5398

June 27, 2005

To: Fire Station Building Committee

From: Daniel J. Morgado

Re: Meeting

The next meeting of the Fire Station Building Committee will be **Wednesday, July 6, 2005 at 7:00 PM** in the Selectmen's Meeting Room located at the Municipal Office Building, 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Accept minutes of June 23, 2005 (attached)
3. Review design concepts for Fire HQ
4. Discussion on format of June 21st meeting when additional parties will be invited in to review and comment on revised design concepts
5. Other Business
6. Confirm date for next meeting
7. Adjourn

Please advise with any questions.

Cc (via Email) Kaffee Kang
 Harold Stuart
 Kevin Samara
 Richard Ricker
 Michael Hale
 Angela Snell
 Parks and Cemetery Commission

FIRE STATION BUILDING COMMITTEE

Thursday, May 23, 2005

7:00 A.M.

Present: Bruce Card, Robert Cox, Gerald LaFlamme, Anthony Mastromatteo, Pat Sacco, Daniel Morgado

Absent: Ralph LeBlanc

Also present: Kaffee Kang, Eric Denoncourt, Jack Perreault, Kevin Samara, Donald Gray, Harold Stuart

Introductions were made.

On a motion by Mr. LaFlamme, second by Mr. Cox, the minutes of April 14, 2005 were accepted.

Mr. Morgado reviewed with the Committee his memo of June 9, 2005, that outlined some ideas relative to scope and timetable for the project. The Committee discussed various aspects of the project and heard from Chief LaFlamme, Ms. Kang and Mr. Cox relative to the extent of renovations required at Station #2. It was agreed that those Committee members who have not toured Station #2 to do so prior to the next meeting. Those members will make arrangements to tour the building by calling Chief LaFlamme or Mr. Card.

On a motion by Mr. Sacco, second by Mr. Cox, the Committee voted to limit the scope of the project to the new Fire HQ and renovation of Station #2.

Ms. Kang reported on the site selection process. She advised that borings have been ordered up that will be completed on June 24th.

Discussion turned to the meeting schedule. Ms. Kang provided a suggested schedule. It was agreed that the Committee would meet on Thursday nights (except for July 6th) at 7:00 PM. The dates for the next several meetings are: July 6 (Wednesday) and 21; August 4 and 18.

The July 21st meeting will be used to bring all parties together including the Committee, Board of Selectmen, Historic District Commission, Parks and Cemetery Commission, Congregational Church and Finance Committee.

Mr. Samara stressed the need to keep the Commission in the loop on design and that he would be forwarding information today to the rest of the Committee. There was a period of discussion relative to exterior design.

Chief Laflamme distributed the space study he had prepared with list of proposed equipment. This will be reviewed by the Committee. Discussion centered on the need to finding the balance on scope and design between the high end and the low end.

Ms. Kang reviewed with the Committee her fee proposal dated June 17, 2005 and reviewed with the Committee the list of sub-designers (consultants) being proposed.

Ms. Kang left the meeting to allow the Committee to discuss the fee proposal for the Fire HQ Project. It was agreed to hold off on the fee proposal for Station #2 pending a better understanding of the scope of work to be undertaken.

On a motion by Mr. Sacco, second by Mr. Mastromatteo, the Committee voted to accept the lump sum fee proposal of \$256,000 (Design Development portion is \$74,750.00) for the Fire HQ Project and to accept the list of sub-designers proposed.

The meeting adjourned at 8:05 AM.

Respectfully submitted,

Daniel J. Morgado
Town Manager

**FIRE STATION BUILDING
COMMITTEE**



**Richard D. Carney
Municipal Office Building
100 Maple Avenue**

Town of Shrewsbury
MASSACHUSETTS 01545-5398

June 24, 2005

To: Parks and Cemetery Commission
Historic District Commission
First Congregational Church of Shrewsbury

From: Bruce R. Card, Chairman (508-755-8454)
Fire Station Building Committee

Re: Meeting to Review Design Options

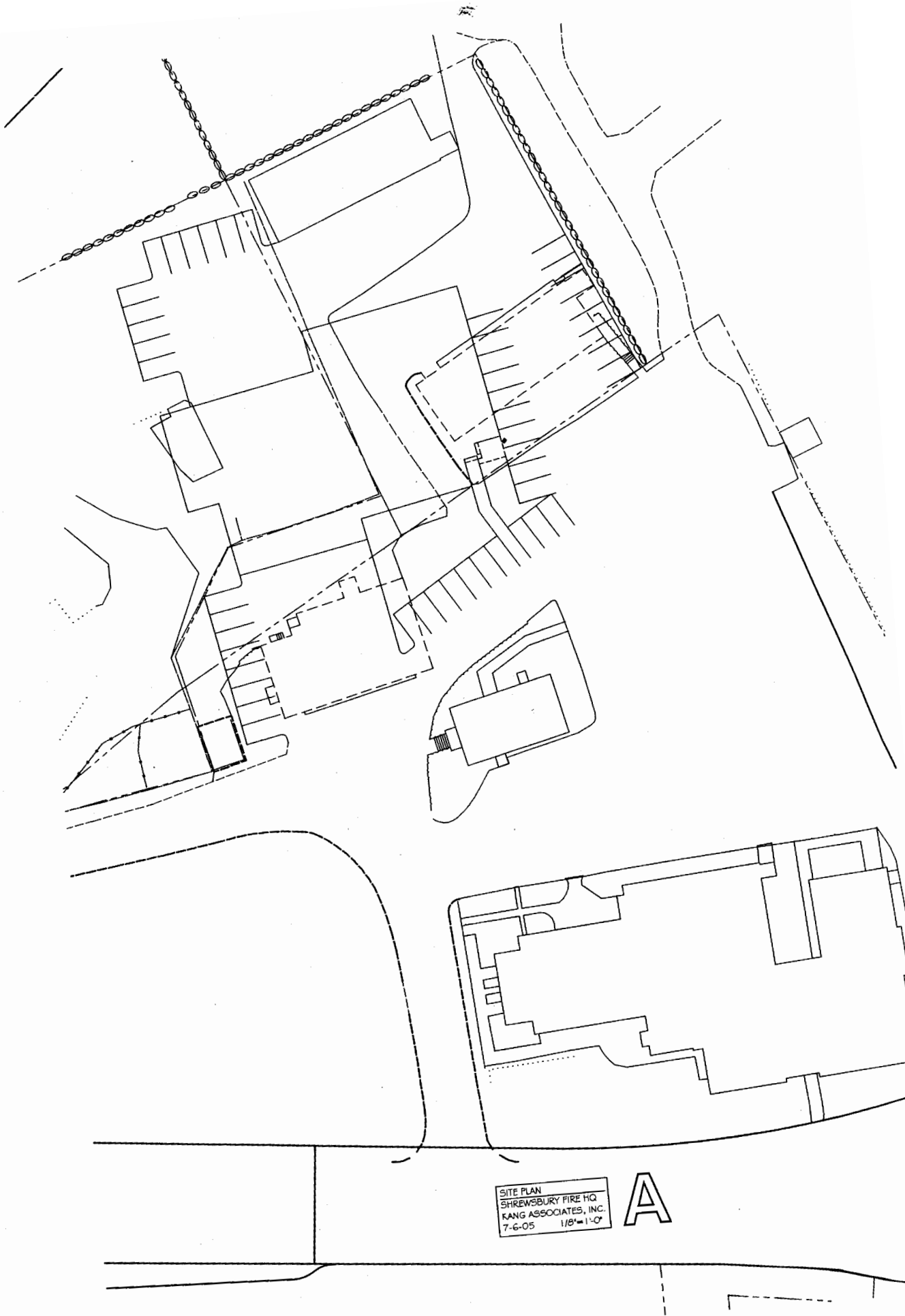
On **July 21, 2005, at 7:00 PM** in the Selectmen's Meeting Room, the Building Committee will meet with Kaffee Kang of Kang Associates, Inc. to review design options for the new Fire Headquarters and hopefully by the end of the evening be able to select a preferred concept.

The Building Committee wishes to invite all interested parties to this meeting to offer comments and suggestions.

As a directly impacted parties, the Committee asked that I extend to you this direct invitation.

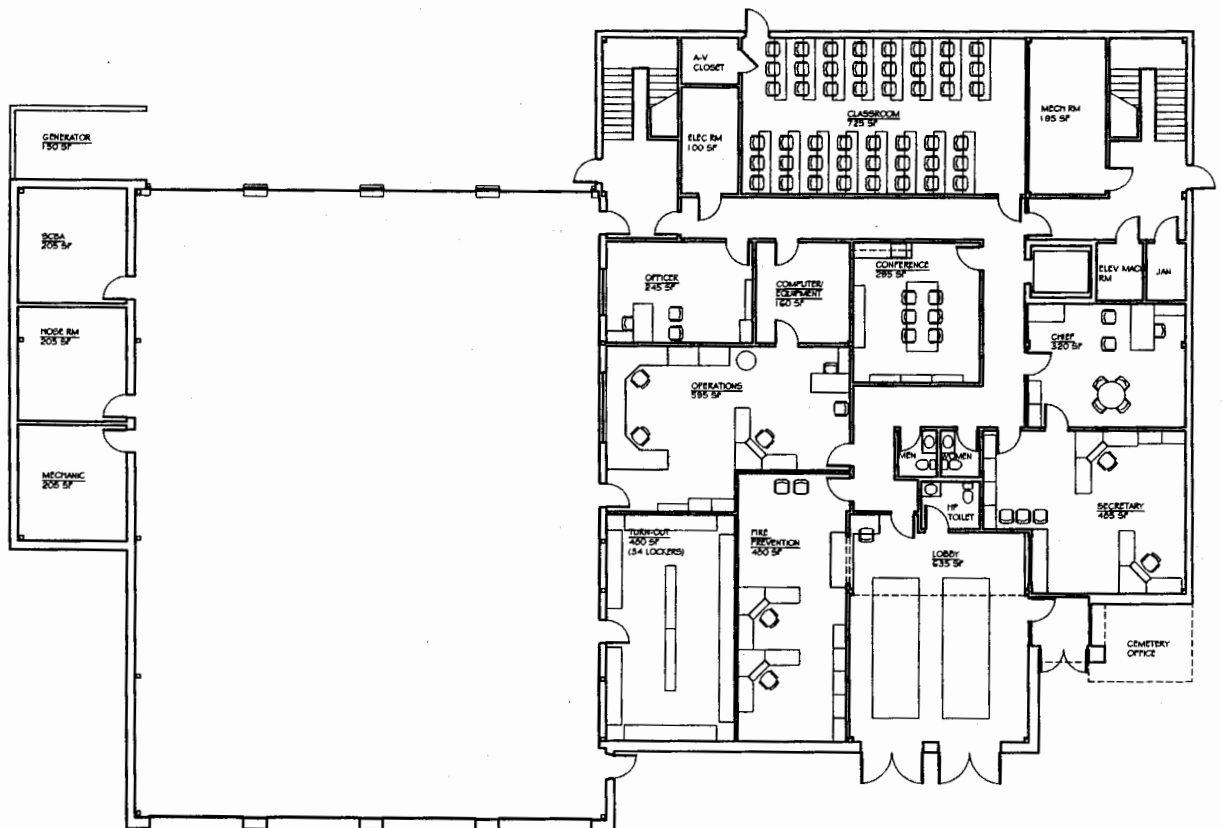
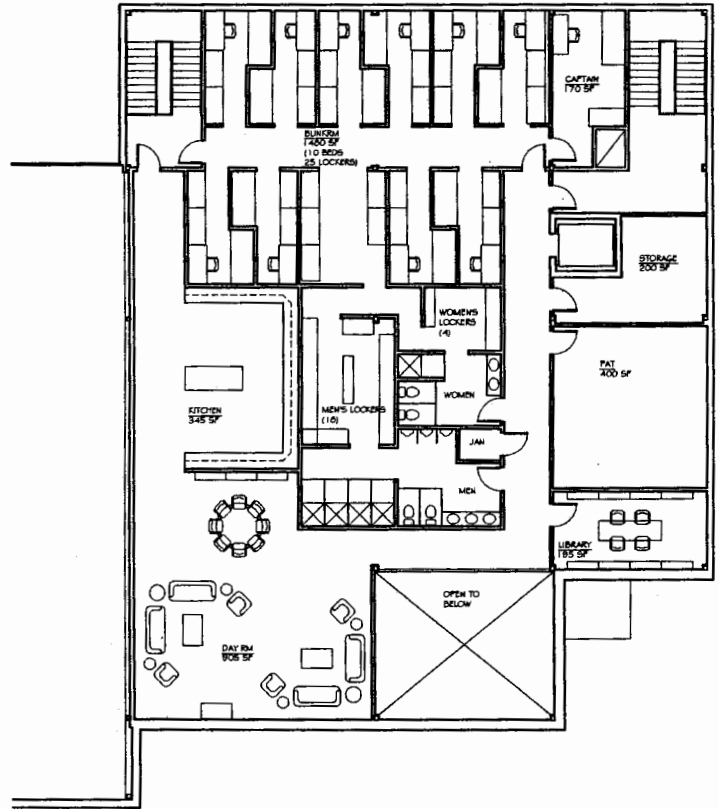
Please contact me directly with any questions.

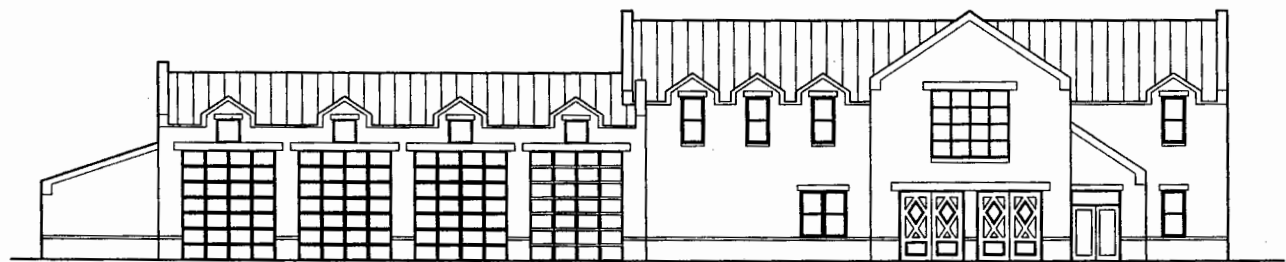
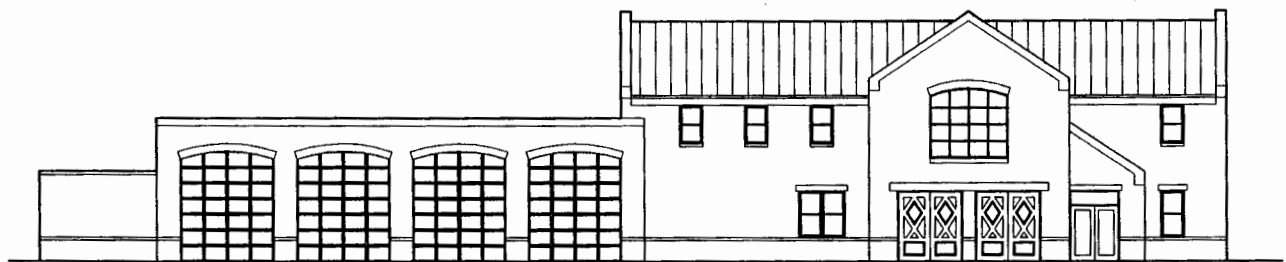
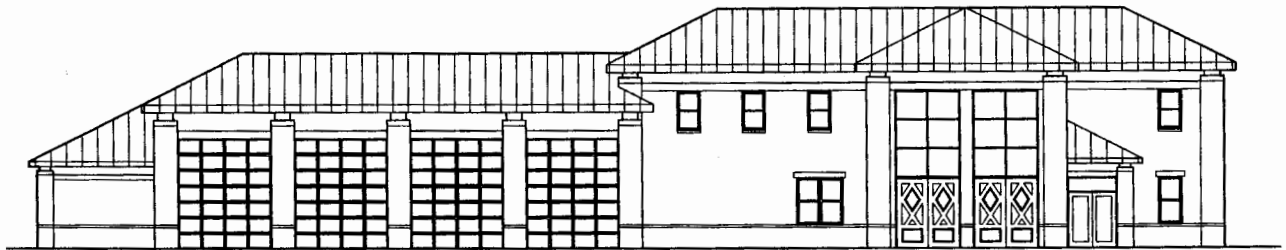
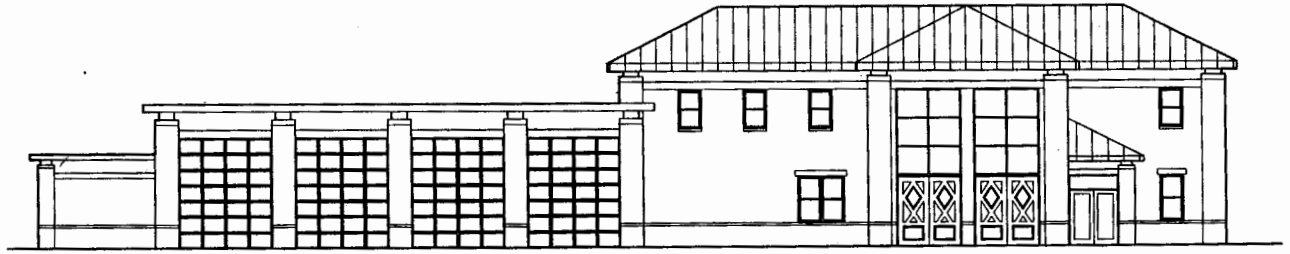
Cc Building Committee Members
Board of Selectmen
Finance Committee
Kaffee Kang
Michael D'Errico, President Shrewsbury Firefighters Association

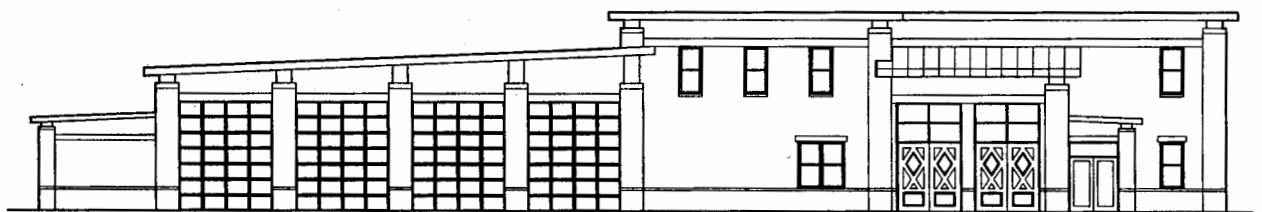
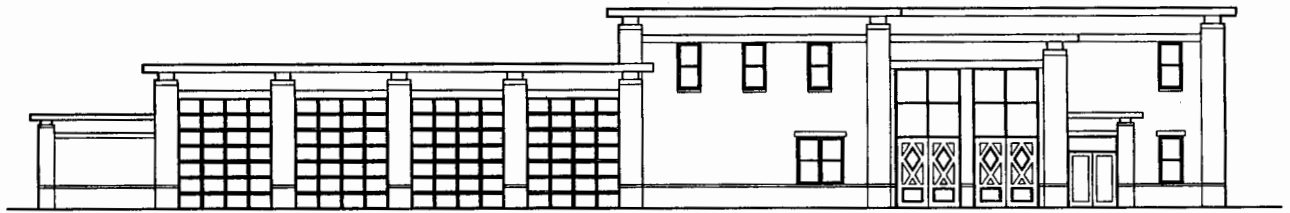


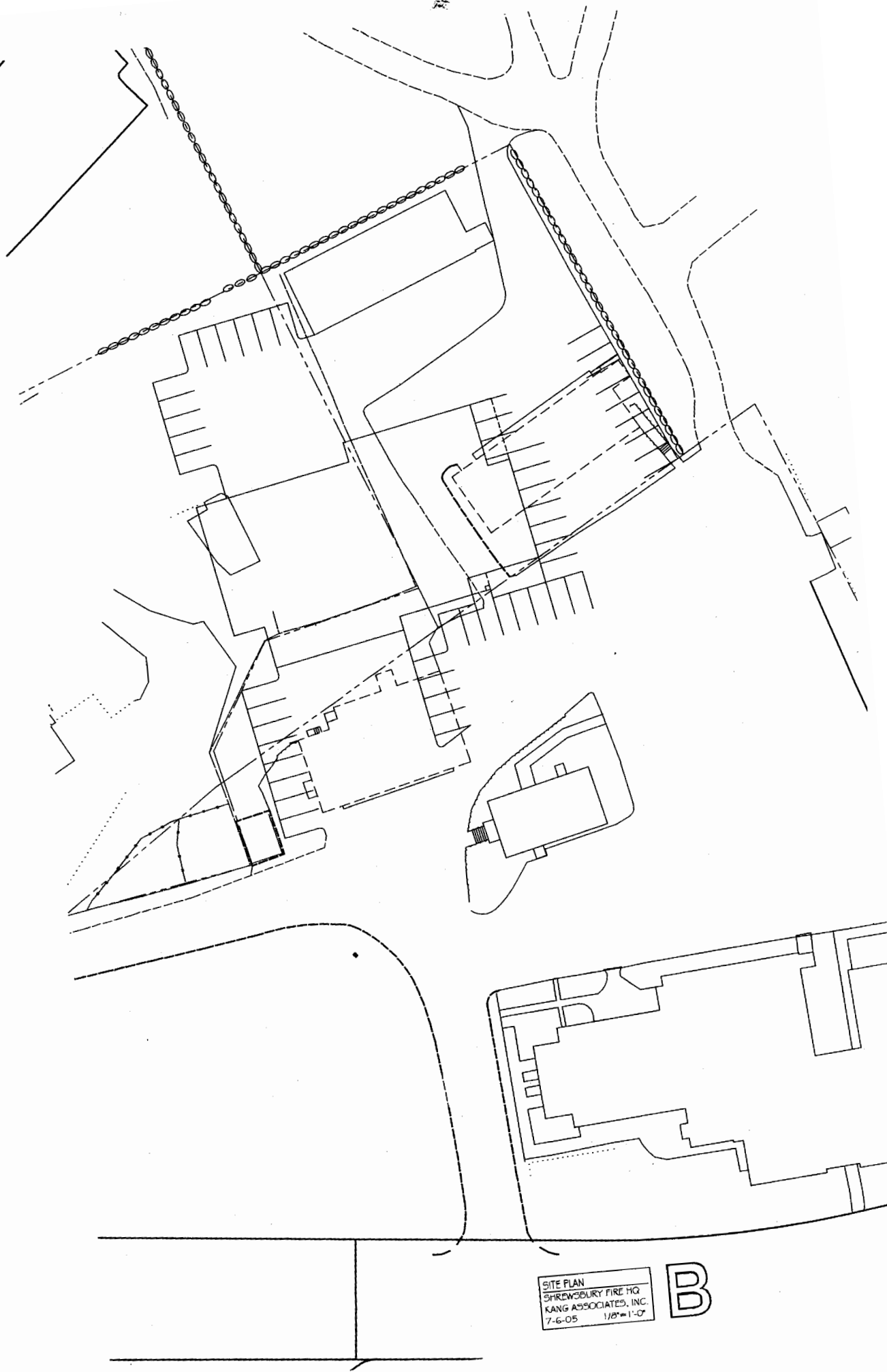
SITE PLAN
SHREWSBURY FIRE HQ
KANG ASSOCIATES, INC.
7-6-05 1/8" = 1'-0"

A



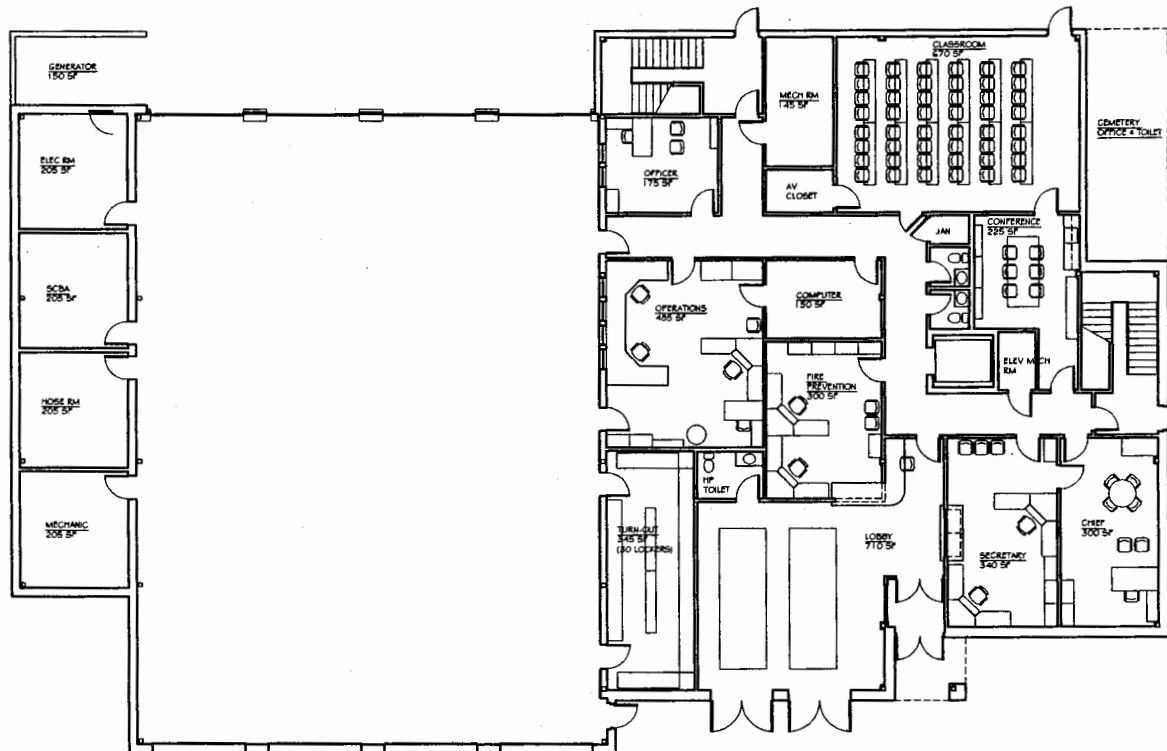
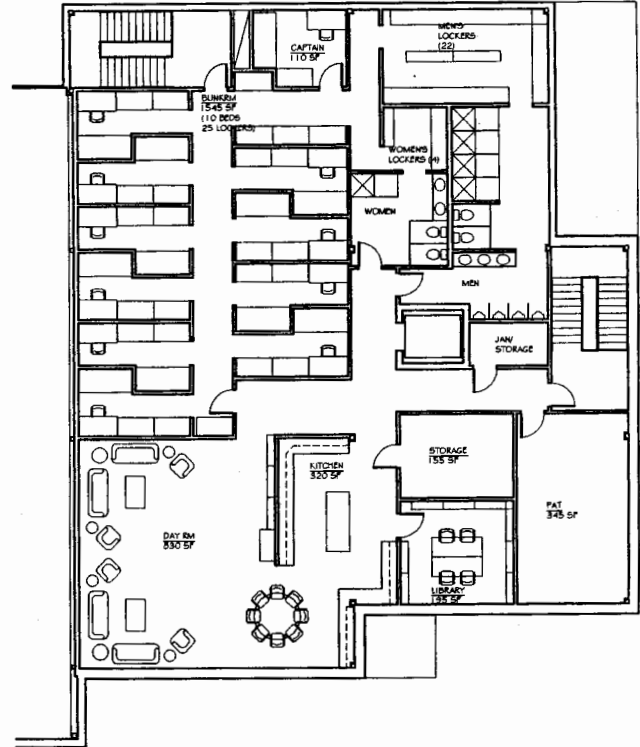
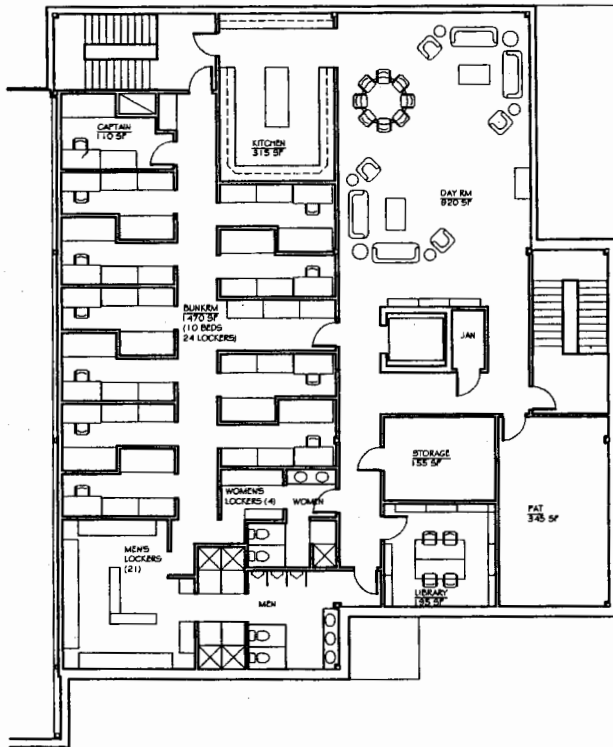


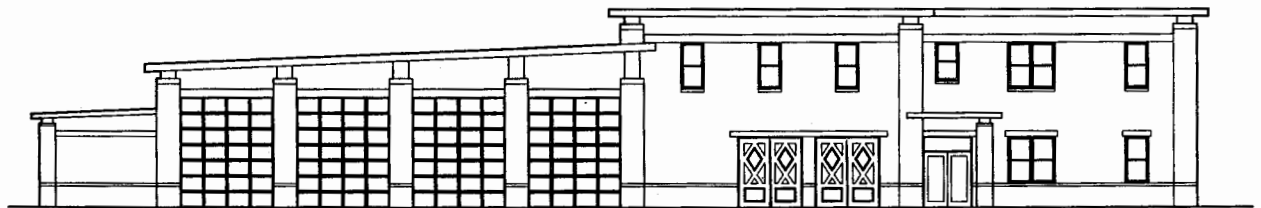
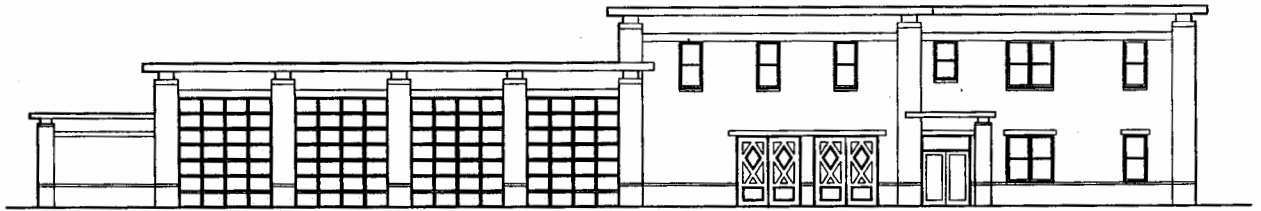




SITE PLAN
SHREWSBURY FIRE HQ
KANG ASSOCIATES, INC.
7-6-05 1/8"=1'-0"

B





FRONT ELEVATIONS
SPARKSBURY FIRE HD
KANG ASSOCIATES, INC.
7-6-05 1/8" = 1'-0"

B



Shrewsbury Fire HQ: Space Comparison

Space	Program	Scheme A	Scheme B
First Floor			
Lobby	1000	635	710
Secretary	480	485	340
Chief	320	320	300
Fire Prevention	480	480	300
Operations	600	595	485
Computer	120	160	150
Turn-out	480	480	345
Officer	256	245	175
Classroom	720	725	670
Conference	256	295	225
SCBA	224	205	205
Hose Room	196	205	205
Mechanic	196	205	205
Second Floor			
Day Room	900	905	830
Kitchen	384	345	320
Library	192	195	195
PAT	400	400	345
Bunkroom			
Men	320	465	605
Women	240	205	210

Daniel J Morgado

From: Kaffee Kang [kk@kangarchitects.com]
Sent: Monday, June 27, 2005 3:48 PM
To: Daniel J Morgado; Bob Cox; Gerald Laflamme; Pat Sacco
Cc: Jack Perreault
Subject: Fw: Shrewsbury Geotechnical Report

Here is the geotech report. Looks like we have good soils for shallow foundations. It's a good thing we are not considering a basement because there is bedrock below.

I do not seem to have email addresses for Bruce Card, Anthony Mastromatteo, or Ralph LeBlanc. Can someone pass this info on to them?

Thanks,
Kaffee

----- Original Message -----

From: Richard Weber
To: Kaffee Kang
Sent: Monday, June 27, 2005 11:34 AM
Subject: Shrewsbury Geotechnical Report

Kaffee

I have attached the geotechnical report. Please review and let me know if you have any questions.

—
Richard P. Weber, P.E.
Weber Engineering Associates LLC
Voice 508 429-4573

This communication is confidential. If you have received this information by mistake, please destroy all copies and notify Weber Engineering Associates, LLC. Use of this information without authorization is prohibited.

6/28/2005

Weber Engineering Associates, LLC

June 27, 2005

Ms Kaffee Kang
Kang Associates Inc.
410 Boston Post Rd
Sudbury, MA 01776

Re: Geotechnical Engineering Report
Proposed Shrewsbury Fire Station
Shrewsbury, Massachusetts
Ref: 05628

Dear Ms Kang:

We are pleased to submit this letter summarizing the results of the geotechnical engineering studies undertaken regarding the referenced site. This work was conducted in accordance with our proposal dated June 13, 2005. The objective of the work summarized herein was to provide geotechnical recommendations to the design team for use on this project. These recommendations are based on the information available to date and are subject to change if additional information becomes available.

BACKGROUND

The Town of Shrewsbury plans to construct a new fire station located behind the existing fire station that was constructed in 1927. The new fire station will be slab on grade with the slab elevation approximately equal to the grade at the entrance to the existing fire station. Therefore, we have assigned El. 680 as the approximate slab grade. Existing grade within the proposed fire station footprint ranges from El. 678.5 at the northeast corner to El. 675 at the southwest corner of the site. Structural loads were not available at the time this report was prepared.

The property is now occupied by the existing fire station (11 Church Road), cemetery garage, and private property (5 Church Road) a portion of which will become Town land for this project. Existing Town land is paved or has grass cover. Remnants of a building foundation and excavations exist at the southwest corner of the proposed building footprint located at 5 Church Road. The private land is also wooded and has been used for landscape material disposal. An environmental assessment of the property was not part of this geotechnical study.

SURFICIAL GEOLOGY OF THE SITE

The surficial geology of the referenced site appears on the USGS Surficial Geologic Map of the Shrewsbury Quadrangle (1969). The site is located in Shrewsbury, Massachusetts to the rear of the

Phone (508) 429-4573 Fax (888) 808-7384 92 Briarcliff Lane, Holliston MA 01746

existing fire station located at 11 Church Road. The map identifies the subsurface conditions at the site and within the general area as glacial till. The glacial till is described as a light to dark gray, poorly sorted, unstratified mixture of silt, sand, gravel and boulders with minor amounts of clay. The recent subsurface exploration program encountered this material as described in a following section of this report.



Figure 1 – Surficial Geology of Site and immediate Area

SUBSURFACE EXPLORATIONS

Soil Exploration Corporation of Leominster, Massachusetts conducted a program of 6 soil test borings at the site on June 24, 2005. The location of the explorations is shown on Figure 2, Exploration Location Plan. Each of the boreholes terminated at refusal to further penetration without using rock coring methods. The depth of the borings ranged from 9.3 feet to 13.2 feet below ground surface (BGS). Although the refusal material was not cored to obtain a core sample, material retrieved in the spoon sampler contained weathered rock or rock fragments where noted on the logs.

Samples of soil were retrieved at the ground surface and generally at 5-ft intervals to provide material for the visual classification shown on the logs. The samples were retrieved using a standard split spoon sampler driven with a 140-pound weight falling 30-inches at each sampling depth. The sampler was driven a distance of 18-inches or as otherwise shown. The number of hammer blows required to drive the sampler into the soil in 6-inch increments is recorded on the logs. The sum of the hammer blows for the 6-inch to 12-inch and 12-inch to 18-inch interval provides the Standard Penetration Resistance (N) and is a measure of soil density in granular soils.

It should be noted that the classification of soil strata shown on the logs is based upon our interpretation of the subsurface conditions. It is possible that there might be thin layers of material lying between the sampling intervals that are not described on the logs and which might not become known until construction. Likewise, the depth to each soil stratum is considered to be approximate

and may be more gradual or different in the field. Logs of the borings were prepared by Weber Engineering Associates, LLC and are attached to this report for reference.

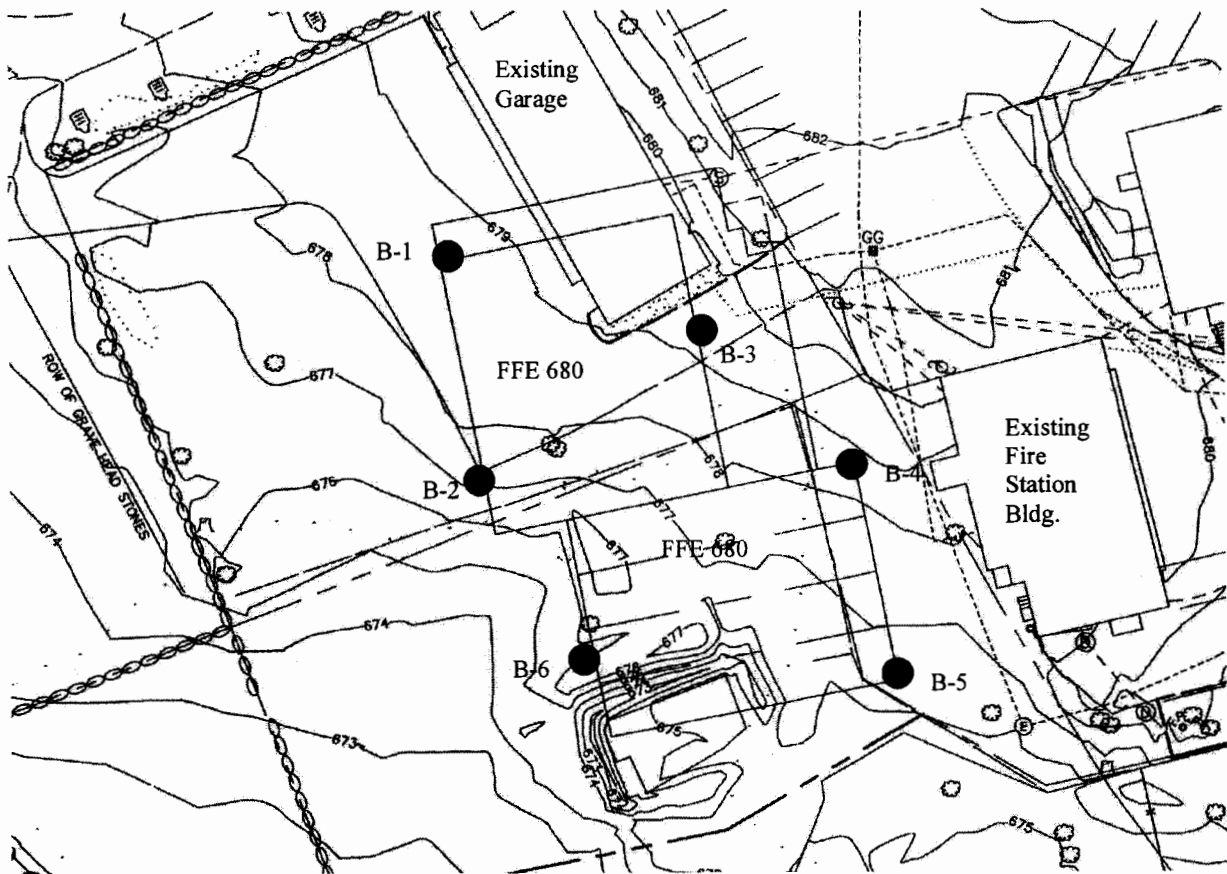


Figure 2 – Exploration Location Plan

SUBSURFACE CONDITIONS

The subsurface conditions described herein are based upon our interpretation of the materials observed in the exploration program.

Soil

In general, the existing natural soils consist of dense brown fine sand and silt with trace gravel (glacial till). Boulders can be encountered within the glacial till material. Glacial till is encountered below a vegetation or topsoil layer ranging from approximately 0.5 feet to 2 feet thick (B-2, B-3, B-5, B-6) or granular fill that is approximately 3 feet to 4 feet thick (B-1, B-4). The glacial till layer ranges from 5 feet to 11 feet thick and is underlain by weathered shale bedrock.

The surface of the rock is uneven and ranges from approximately 6 feet to 12 feet BGS. Although the augers could penetrate several feet into the rock, excavation into this material might be difficult and rock excavation methods could be required. Given the proposed grades for the project in

comparison with the results of the exploration program however, it is our opinion that encountering rock within the building excavations is unlikely. The uneven rock surface encountered in the exploration program ranges from approximately El. 670.5 to El. 664 although there could be areas where the rock is higher or lower between the borehole locations and these areas will not be known until construction.

If the proposed building slab grade is El. 680 then both interior and exterior footings are expected to be located at approximately El. 678 and El. 676 respectively. This grade places the footings above existing site grade or within the topsoil / existing fill material. The existing fill is medium dense to dense and might not have been placed as engineered compacted fill. The lateral extent of the fill material is unknown. Additional explorations are required to further explore the characteristics and extent of the existing fill. If site grades change, then the exterior footings could extend deeper.

Groundwater

A groundwater level was not encountered in any of the borings upon completion. However, a description such as "wet" or "moist" is provided on the logs to indicate subjective moisture conditions. Although a true groundwater level was not encountered it is our opinion that perched groundwater level exists especially where the sample was wet. Perched water conditions develop during periods of heavy precipitation or snow melt especially in poorly draining soils. Therefore, contractors should expect moist or wet soil conditions with possible water seepage within the excavations and provide measures to handle the wet conditions during construction.

The groundwater conditions stated on the logs are applicable to the time when the readings were made. The level of groundwater below the ground surface fluctuates based on conditions such as season, temperature and amount of precipitation that may be different from the time when the observations were made. Therefore, the groundwater levels may be higher or lower during construction and during the life of the structure. This fact should be taken into consideration when preparing foundation design and developing earthwork procedures.

RECOMMENDATIONS

Recommendations are presented below, subject to change if additional information becomes available:

1. Remove all topsoil and vegetation within the proposed building footprint and to a distance of at least 5 feet beyond the building perimeter.
2. Remove existing fill within the proposed building footprint. If the granular fill is segregated, then it can be reused on site provided that it meets the requirements for specified material. The lateral extent of the fill is unknown.
3. We expect that stripping the site of topsoil / vegetation and fill will remove material to approximately El. 675. However, there will be areas where the stripped grade is higher such as at B-3 or lower such as within the area of the demolished foundation. The intent is to remove material unsuitable for supporting structures lying above the glacial till surface.

4. When the glacial till surface has been exposed, use granular fill as backfill to construct the building to the required grade. Therefore, that granular fill as specified here in be used as structural fill below the building footprint and up to the require slab base course subgrade. The compacted structural fill must extend to a lateral distance defined by a 1:1 slope from the outer edge of footings to the bottom of the excavation or 5 feet whichever is greater.
5. Individual spread footings or wall footings can be designed on the basis of an allowable soil bearing pressure of 2 tsf (4000 psf) provided that the least footing width is 3 feet. For narrow footings such as wall footings, reduce the allowable pressure by a factor of B/3 where B is the actual footing width. Individual footing shall be no less than 3 feet wide and wall footings shall be no les than 2 feet wide. Differential settlement between adjacent columns is expected to be less than $\frac{3}{4}$ -inches.
6. Exterior footings must be placed 4 feet below exterior grade for frost protection. If the general site grade is not raised to approximately El. 680, then the exterior footings will be deeper than expected and will bear within the glacial till material. We recommend that footings bearing on glacial till be constructed over a 4-inch thick layer of $\frac{3}{4}$ inch crushed stone or a lean concrete mud mat. The purpose of the stone or mud mat is to protect the glacial till which can become disturbed and soften especially when wet.
7. Since there is no below ground level, drains are not required. However, the glacial till will not drain freely. Consider sub-drains to carry subsurface water away from the structure based on actual design grades.
8. Subsurface conditions are suitable for constructing a slab on grade provided that the topsoil and vegetation is removed from below the building footprint. The existing granular fill (B-1, B-4) might be acceptable for supporting the slab provided that the material is proofrolled and densified and does not contain deleterious materials. Although leaving the existing fill in place below the proposed slab area (but not footings) is an option, it might be easier for construction to remove the fill along with the topsoil as stated previously. Therefore, we recommend carrying a budget that includes removing all topsoil, fill and vegetation below the proposed building footprint and to a distance of 5 feet beyond the perimeter of the structure. During construction the extent and nature of the fill can be reassessed along with the feasibility of leaving the material in place below the slab area.
9. We recommend that the slab be constructed on a base course layer consisting of $\frac{3}{4}$ -inch crushed stone as required in the MBC and we recommend that the crushed stone base course layer be no less than 4-inches thick. A suitable vapor retarder must be installed below the slab. At least 2-inches of well-graded gravelly sand should be placed over the stone to provide protection for the vapor barrier. Construction methods must not damage the vapor barrier and the vapor barrier must be continuous below the slab. The slab can also be constructed over an 8 inch thick gravel borrow base course layer. The recommended gradation of gravel borrow is provided in this report.
10. Exterior foundation walls designed as retaining walls should be designed to resist both the superimposed effect of the total static lateral earth pressure and the earthquake force shown below. The earthquake force should be applied as an inverse triangle and as required by the Massachusetts State Building Code. The pressure cause by temporary surcharges can be

ignored. The height of the wall (H) for earthquake force calculations is the height measured from the top of the horizontal backfill surface to the finish grade or floor in front of the wall. The height of wall for static earth pressure calculations is the height of wall measured from the top of the backfill to the bottom of the foundation. If there are other conventional retaining walls on site for landscaping, then they should be designed based on the "active" lateral earth pressure. The recommended design values are shown below.

Total Soil Unit Weight (γ) pcf	125 pcf
Lateral Earth Pressure Coefficient (K_0) – Horizontal backfill surface	0.5 At Rest Condition
Equivalent Fluid Pressure (γ_e) pcf / ft depth (at rest condition)	$K_0\gamma = 62.5$ pcf/ft
Lateral Earth Pressure Coefficient (K_a) – Horizontal backfill surface	0.33 Active Condition
Equivalent Fluid Pressure (γ_e) pcf / ft depth (active conditions)	$K_a\gamma = 42$ pcf/ft
Earthquake Force	$0.045\gamma H^2$
Groundwater Pressure	No - drained

11. The recommended lateral surcharge pressure is a uniform load of 0.5q psf applied to the rear of the retaining wall if the wall is restrained from movement. Where the wall is not restrained, we recommend including a lateral uniform surcharge pressure of 0.33q psf applied to the rear of the wall.
12. We recommend using the following values of surcharge pressure (q):

Condition	Surcharge q (psf)
Floor load behind below ground wall	100
Light vehicular traffic / parking	100
Heavy truck loads	600 psf (or as otherwise required based on actual truck loading, whichever is greater as determined by the structural engineer)

13. All fill placed within and below the structure must be compacted to at least 95 percent of the maximum dry density determined in accordance with ASTM D1557. Lifts must be controlled so that they do not exceed 6-inches in confined areas and 12-inches in open areas where larger compactors can be utilized. Use hand-operated equipment within 10-ft behind retaining walls and do not over-compact the backfill material.
14. All excavations shall be stabilized by cutting back the side slopes or using shoring and bracing as required by 29 CFR 1926 Subpart P, Excavations. Plans and specifications should make reference to this requirement so that Contractors are aware of their responsibility.

15. Subsurface conditions beginning at the ground surface of the site consist of a thin layer of dense glacial till underlain by weathered rock. Based on Table 1612.4.1 of the Massachusetts State Building Code, Sixth Edition it is our opinion that the site has an S₁ site profile. Accordingly the recommended seismic coefficient (S) for design is 1. The site is not susceptible to liquefaction.
16. Although the boring logs do not indicate the presence of groundwater, the contractor is advised that wet conditions can be encountered. We expect that controlling the groundwater or surface water that enters the excavation can be handled by conventional pumping methods from the bottom of the excavation. Groundwater control must be sufficient to avoid softening the prepared bearing surface of fill subgrade.
17. Use lightweight or small equipment on the exposed glacial till especially if the material is moist or wet. The soil can easily become disturbed when worked over and the material will be difficult if not impossible to recompact.

Materials

We recommend that the following material gradations and names be used for consistency on the drawings and in the earthwork specifications. All material must be well graded between the limits shown herein and be capable of being compacted to the required degree of density. The material shall have sufficient fines so that it does not shove and remains stable. We also recommend that the specifications not allow the use of recycled material such as reprocessed building demolition material.

Common Borrow

Friable natural soil containing no gravel greater than 2/3 loose lift thickness and free of trash, snow, ice, organics, roots, tree stumps and no more than 35 percent passing the No. 200 sieve. Common borrow can be used as general backfill provided it can be compacted and stabilized for the intended purpose.

Granular Fill

Pavement subbase material and structural fill below the building slab base course layer and below footings:

Sieve Size	Percent Finer
3-inches	100
No. 10	30-95
No. 40	10-70
No. 200	0-15 ⁽¹⁾

Where this material is used for backfill against basement walls for drainage, the amount passing the No. 200 sieve shall be no more than 10 percent. As an alternative, a synthetic drainage product

consisting of geotextile fabric and a drainage medium can be used adjacent to the basement walls for drainage.

Gravel Borrow:

Base course material for slabs and where required to protect the granular fill from disturbance.

Sieve Size	Percent Finer
3-inch	100
1/2-inch	50-85
No. 4	40-75
No. 10	30-60
No. 40	10-35
No. 100	5-20
No. 200	2-8

Crushed Stone

The crushed stone should meet the requirements for material M2.01.4 (3/4-inch gradation) stated in the Massachusetts Highway Department Standard Specifications for Highways and Bridges.

REVIEW OF PLANS AND SPECIFICATIONS

We recommend that we be allowed the opportunity to review the plans and specifications for geotechnical issues prior to completing the Contract Documents. The purpose of this is to verify that the intent of our recommendations have been correctly interpreted and included.

CONDITIONS

This report is delivered subject to the following conditions:

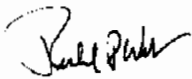
1. The recommendations presented herein reflect our opinions and are based upon engineering studies conducted using the available subsurface information as stated herein along with our understanding of the building configuration and grades. If other information becomes available or if conditions change we must be notified. The recommendations will be reviewed in context with the new information and we reserve the right to modify our recommendations as necessary.
2. The studies and recommendations summarized herein are based upon generally accepted geotechnical engineering practices. No other warranty, expressed or implied is made. These recommendations apply specifically to this project since they are based on site specific conditions. Hence, they are not transferable.

3. This report has been prepared solely for design purposes and shall not be incorporated by reference of other means into the Contract Documents. If this report is included in the Project Manual, it shall be for information only. Earthwork specification clauses shall take precedence.

We are pleased to have this opportunity to assist. If you have any questions regarding this report, please do not hesitate to call.

Very truly yours,

WEBER ENGINEERING ASSOCIATES, LLC



Richard P. Weber, P.E.
Manager

Attachments:
Soil Test Boring Logs

TEST BORING LOG							Sheet 1	
Weber Engineering Associates, LLC Geotechnical Engineers Holliston, Massachusetts		Shrewsbury Fire Station Shrewsbury Massachusetts		BORING NO. B-1				
				DATE: 6/26/05				
Ground Elevation: 678.5 (approx) Date Started: 6/24/05 Date Finished: 6/24/05 Driller: Soil Exploration Corp				Groundwater Observations				
				Date	Depth (ft)	Casing	Stabilization Time	
				6/24			Possibly perched water	
Depth (ft)	Sample				Type	Strata	Visual Description	Note
	No.	Pen / Rec.	Depth	Blows / 6"				
0							Pavement	
1	1	18/12	0.5-2	20-29-40	Ss	Gravelly Sand	Brown fine to coarse SAND little Silt little Gravel (possible fill)	
2						3'		
3								
4								
5	2	18/12	5-6.5	12-16-22	Ss	Glacial Till	Moist brown fine SAND and SILT trace Gravel	
6								
7							Boulder from 7' to 8'	
8						8'		
9								
10	3	7/5	10-10.6	90-50/1"	Ss	Weathered Rock	Brown fine sand some Silt with weathered rock (shale)	
11								
12	4	6/6	12-12.5	124/6"	Ss		Weathered rock	
13						12.5'		
14							Bottom of Boring	
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
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27								
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32								
33								
34								
35								

Notes:

Sample Type / Field Test ss = split spoon A = Auger U = Undisturbed Tv = Pocket Torvane Pp = Pocket Penetrometer	Proportioned Used Trace 0 – 10% Little 10 – 20 % Some 20 – 35% And 35-50%		Casing	Sampler	Core
		Type	HSA	ss	
		ID	4	1-3/8"	
		Hammer		140 lbs.	

TEST BORING LOG							Sheet 1	
Weber Engineering Associates, LLC Geotechnical Engineers Holliston, Massachusetts		Shrewsbury Fire Station Shrewsbury Massachusetts		BORING NO. B-2				
				DATE: 6/26/05				
Ground Elevation: 677 (approx) Date Started: 6/24/05 Date Finished: 6/24/05 Driller: Soil Exploration Corp				Groundwater Observations				
				Date	Depth (ft)	Casing	Stabilization Time	
				6/24			Possibly perched water	
Depth (ft)	Sample				Type	Strata	Visual Description	Note
	No.	Pen / Rec.	Depth	Blows / 6"				
0								
1	1	18/6	0-1.5	3-5-5	Ss	Topsoil	Topsoil	
2						2'__		
3								
4								
5	2	18/18	5-6.5	11-16-18	Ss	Glacial Till	Moist brown fine SAND and SILT trace Gravel	
6								
7								
8								
9								
10	3	18/12	10-11.5	12-23-19	Ss	11'	Moist brown fine SAND and SILT trace Gravel to	
11						Weathered	weathered rock (shale)	
12						Rock		
13	4	1/1	13-13.1	75/1"	Ss	13.1'__	Weathered rock (tip of sampler)	
14								
15								
16							Bottom of boring	
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								

Notes:							
Sample Type / Field Test ss = split spoon A = Auger U = Undisturbed Tv = Pocket Torvane Pp = Pocket Penetrometer		Proportioned Used Trace 0 – 10% Little 10 – 20 % Some 20 – 35% And 35-50%			Casing	Sampler	Core
				Type	HSA	ss	
				ID	4	1-3/8"	
				Hammer		140 lbs.	

TEST BORING LOG							Sheet 1	
Weber Engineering Associates, LLC Geotechnical Engineers Holliston, Massachusetts			Shrewsbury Fire Station Shrewsbury Massachusetts		BORING NO. B-3			
					DATE: 6/26/05			
Ground Elevation: 679 (approx) Date Started: 6/24/05 Date Finished: 6/24/05 Driller: Soil Exploration Corp					Groundwater Observations			
					Date	Depth (ft)	Casing	Stabilization Time
					6/25	5	5	During drilling
Depth (ft)	Sample				Type	Strata	Visual Description	Note
	No.	Pen / Rec.	Depth	Blows / 6"				
0	1	18/12	0-1.5	3-8-6	Ss	Topsoil	6" topsoil to brown fine SAND and SILT trace Gravel	
1								
2								
3								
4	2	18/18	5-6.5	18-24-23	Ss	Glacial Till	Wet brown fine SAND and SILT trace Gravel	
5								
6								
7								
8	3	3/1	9-9.3	100/3"	Ss	9'	Bottom of boring	
9								
10								
11								
12						*	* weathered rock fragments in tip of sampler	
13								
14								
15								
16								
17								
18								
19								
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34								
35								

Notes:					
Sample Type / Field Test ss = split spoon A = Auger U = Undisturbed Tv = Pocket Torvane Pp = Pocket Penetrometer	Proportioned Used Trace 0 – 10% Little 10 – 20 % Some 20 – 35% And 35-50%		Casing	Sampler	Core
		Type	HSA	ss	
		ID	4	1-3/8"	
		Hammer		140 lbs.	

TEST BORING LOG							Sheet 1		
Weber Engineering Associates, LLC Geotechnical Engineers Holliston, Massachusetts		Shrewsbury Fire Station Shrewsbury Massachusetts		BORING NO. B-4					
				DATE: 6/26/05					
Ground Elevation: 678.5 (approx) Date Started: 6/24/05 Date Finished: 6/24/05 Driller: Soil Exploration Corp					Groundwater Observations				
					Date	Depth (ft)	Casing	Stabilization Time	
					6/24	5		During drilling	
Depth (ft)	Sample				Type	Strata	Visual Description	Note	
	No.	Pen / Rec.	Depth	Blows / 6"					
0									
1	1	18/12	0-1.5	9-6-6	Ss	Fill	2" topsoil to tan fine to medium SAND little Silt trace Gravel		
2									
3									
4						_ 4' _			
5	2	18/12	5-6.5	15-15-20	Ss	Glacial Till	Wet brown fine SAND and SILT trace Gravel		
6									
7									
8									
9							Moist brown fine SAND and SILT trace Gravel to weathered rock in tip of sampler		
10	3	6/5	10-10.5	100/5"	Ss	_ 10' _ *			
11									
12									
13							Bottom of boring		
14									
15									
16									
17									
18									
19									
20									
21									
22									
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25									
26									
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30									
31									
32									
33									
34									
35									
Notes:									
Sample Type / Field Test ss = split spoon A = Auger U = Undisturbed Tv = Pocket Torvane Pp = Pocket Penetrometer		Proportioned Used Trace 0 – 10% Little 10 – 20 % Some 20 – 35% And 35-50%			Casing	Sampler	Core		
				Type	HSA	ss			
				ID	4	1-3/8"			
				Hammer		140 lbs.			

TEST BORING LOG							Sheet 1		
Weber Engineering Associates, LLC Geotechnical Engineers Holliston, Massachusetts		Shrewsbury Fire Station Shrewsbury Massachusetts		BORING NO. B-5					
				DATE: 6/26/05					
Ground Elevation: 676.5 (approx) Date Started: 6/24/05 Date Finished: 6/24/05 Driller: Soil Exploration Corp					Groundwater Observations				
					Date	Depth (ft)	Casing	Stabilization Time	
					6/24			Possibly perched water	
Depth (ft)	Sample				Type	Strata	Visual Description	Note	
	No.	Pen / Rec.	Depth	Blows / 6"					
0	1	18/12	0-1.5	2-3-5	Ss	Topsoil __1.5'__	Topsoil		
1									
2									
3									
4	2	18/18	5-6.5	12-20-60	Ss	Glacial Till __6'__	Brown fine SAND and SILT trace Gravel		
5									
6									
7									
8	3	2/2	9-9.1	75/2"	Ss	Weathered Rock __9.1'__	Gray weathered rock (pulverized from auger)		
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
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34									
35									
Notes:									
Sample Type / Field Test ss = split spoon A = Auger U = Undisturbed Tv = Pocket Torvane Pp = Pocket Penetrometer		Proportioned Used Trace 0 – 10% Little 10 – 20 % Some 20 – 35% And 35-50%			Casing	Sampler	Core		
				Type	HSA	ss			
				ID	4	1-3/8"			
				Hammer		140 lbs.			

TEST BORING LOG							Sheet 1		
Weber Engineering Associates, LLC Geotechnical Engineers Holliston, Massachusetts			Shrewsbury Fire Station Shrewsbury Massachusetts		BORING NO. B-6				
					DATE: 6/26/05				
Ground Elevation: 676 (approx) Date Started: 6/24/05 Date Finished: 6/24/05 Driller: Soil Exploration Corp					Groundwater Observations				
					Date	Depth (ft)	Casing	Stabilization Time	
					6/24			Possibly perched water	
Depth (ft)	Sample				Type	Strata	Visual Description	Note	
	No.	Pen / Rec.	Depth	Blows / 6"					
0						Vegetation			
1	1	18/6	0-1.5	1-3-4	Ss	__1'__	Decayed vegetation to brown fine SAND and SILT trace Gravel		
2									
3									
4									
5	2	18/12	5-6.5	19-24-21	Ss	Glacial Till	Cobbles 3' to 4' Moist brown fine SAND and SILT trace Gravel		
6									
7									
8									
9									
10	3	10/6	10-10.9	39-100/4"	Ss		Brown fine SAND and SILT trace Gravel		
11						12'			
12						Weathered			
13	4	3/3	13-13.2	100/3"	SS	Rock	Weathered Rock (shale)		
14						13.2'			
15									
16							Bottom of boring		
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									

Notes:

Sample Type / Field Test	Proportioned Used		Casing	Sampler	Core
ss = split spoon	Trace 0 – 10%				
A = Auger	Little 10 – 20 %	Type	HSA	ss	
U = Undisturbed	Some 20 – 35%	ID	4	1-3/8"	
Tv = Pocket Torvane	And 35-50%	Hammer		140 lbs.	
Pp = Pocket Penetrometer					

Committee to
Township

Oak Middle Building Committee

The following listed bills of the
Oak Middle Building Committee
therefore may be charged against the respective appropriations of this department. It is hereby certified that an examination has been made and it has been determined that the charges are correct and that the goods, materials or services charged for were ordered and that such goods and materials were delivered and that the services were actually rendered to or for the town.

[illegible]

Daniel J Morgado

From: Mike Hale

Sent: Monday, June 27, 2005 1:18 PM

To: Daniel J Morgado

Dan,

Below is a sample policy the Board might want to consider after the Donahue Fountain issue

Town of Needham
Board of Selectmen

Policy Number: BOS 2005.001

Policy: Naming of Facilities and Placement of Memorials

Date Approved: April 13, 2005

Approved: _____
Chairman, Board of Selectmen

Policy:

1. The Board of Selectmen is responsible for the naming (or renaming) of any facilities located on parcels of land under the jurisdiction of the Board. A facility is defined as a building, portion of a building, driveway, intersection, walkway, or other parcel or portion of a parcel of land and places or natural features contained therein. Once a facility has been named, renaming will be approved only in extraordinary circumstances.
2. The Board of Selectmen is responsible for approval of the placement of memorial objects, artwork, signs or other fixtures on parcels of land under the jurisdiction of the Board. Examples include, but are not limited to, plaques, memorial or ornamental signs, sculptures, banners, benches, trees or other plantings, fountains, detached structures, and walls.

Procedure:

1. A proposal to name a facility must be submitted in writing to the Board of Selectmen and must include a summary outlining the merits of the proposal. The proponent or his or her designee will present the request to the Board of Selectmen at a regularly scheduled meeting. The Board will vote on the proposal no sooner than the next regularly scheduled meeting, after allowing a period of time for public comment. The Board of Selectmen may appoint a committee to assist with its review of any proposal.
2. A proposal for the placement of a memorial object, piece of artwork, sign, or other fixture must be submitted in writing to the Board of Selectmen and must include a summary outlining the merits of the proposal. The Board will vote on the proposal at a regularly scheduled meeting.
3. The Board of Selectmen shall review existing facility names to avoid duplication, confusing similarity or inappropriateness.
4. Approval of the placement of a memorial object, artwork, sign, or other fixture will only be made after a determination by the Board of Selectmen that the proposal will not: limit physical access to the site; endanger the peace or safety of the public; interfere with any utility or access thereto; be limited by unacceptable special restrictions, conditions or covenants; or create a significant budgetary obligation on the Town for which no provision has been made.
5. Donation of funds, memorial objects, artwork, signs, fixtures, or in-kind services must be formally accepted by the Board of Selectmen in accordance with Massachusetts General Laws.

6/27/2005

6. Requests for naming of facilities or placement of memorials on land not under the jurisdiction of the Board will be referred to the appropriate board.